

KMC Commander

(UNO-420) IoT and Automation Platform

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DESCRIPTION

Analytics at the Edge

KMC Commander® is a next-generation IoT (Internet of Things) solution that connects your building and other devices to the cloud and provides meaningful data in real-time to your PC or mobile device. The KMC Commander platform consists of Advantech UNO-420 Gateway hardware plus KMC IoT software and cloud services. It is an out-of-the-box solution to visualize, connect, and manage energy, building, and other systems. It not only works with KMC controllers, but also most third-party meters and many other energy and automation devices. It is designed to aggregate, analyze, secure, and relay data from diverse sensors and equipment, and communicate the analytics and visualizations to your mobile device. From a mobile device in the palm of your hand, you can analyze and act on data at the edge of the network with this IoT platform, purpose-built for building and industrial automation.

Built Tough for Demanding Environments

Unlike PCs and servers, the KMC Commander IoT gateway hardware is designed to attach to a wall, panel, or DIN rail in commercial and industrial environments.

Engineered with an industrial-grade form factor and fanless, solid-state design, the KMC Commander gateway can reliably run 24/7 with long life at extended temperatures, in addition to withstanding the higher levels of humidity and dust typical of commercial environments.

Connect Multiple Communication Protocols

Make the most of the equipment you already have and expand capabilities with new technologies. Use KMC Commander to connect with the physical world, bridging both legacy systems and modern sensors to the Internet. Connect to BACnet Ethernet, BACnet IP, BACnet MS/TP, KMDigital, SNMP, and Modbus TCP. For details, see [Specifications—Supported Communication Protocols on page 3](#).

Security Built In

You can depend on KMC Commander's security. A Trusted Platform Module (TPM) chip performs hardware root of trust, secure boot, and BIOS-level lock-down of unused I/O ports. Embedded Ubuntu Core software ensures secure operation. Allow/disallow lists prevent unauthorized IP connections. Custom user permissions, data encryption, and other measures enhance security.

APPLICATIONS

KMC Commander provides data collection, analysis, visualization, and management for the modern smart building ecosystem, including HVAC, lighting, security, and other building applications. For just one example, see [Sample Installation on page 6](#).

MODELS

KMC COMMANDER BASE PACKAGE

CMDR-ADVT-WIFI-BASE package includes **(Wi-Fi) KMC Commander**

The base package also includes:

- **Antenna** for Wi-Fi Internet connection
- A CMDR-D3-PWR-POE **Power Over Ethernet injector**
- A CMDR-ADVT-DINMT mounting adapter for optional **DIN-rail mounting (or mount on a panel with screws)**

See also [Frequently Asked Questions on page 5](#) and [Accessories on page 4](#).

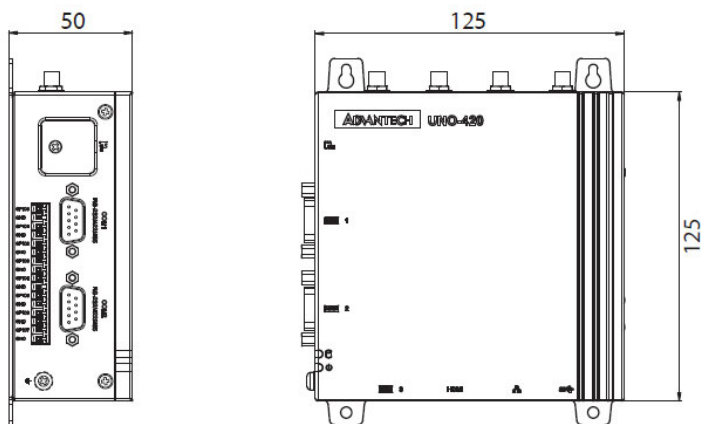
POINT LICENSES

Add licenses for expected points:

Points	Part Number	Description
100	CMDR-1YR-LIC-000100	Up to 100 points annual license
250	CMDR-1YR-LIC-000250	Up to 250 points annual license
500	CMDR-1YR-LIC-000500	Up to 500 points annual license
750	CMDR-1YR-LIC-000750	Up to 750 points annual license
1000	CMDR-1YR-LIC-001000	Up to 1000 points annual license
1500	CMDR-1YR-LIC-001500	Up to 1500 points annual license
2000	CMDR-1YR-LIC-002000	Up to 2000 points annual license
3000	CMDR-1YR-LIC-003000	Up to 3000 points annual license
4000	CMDR-1YR-LIC-004000	Up to 4000 points annual license
5000	CMDR-1YR-LIC-005000	Up to 5000 points annual license
6000	CMDR-1YR-LIC-006000	Up to 6000 points annual license
7000	CMDR-1YR-LIC-007000	Up to 7000 points annual license
8000	CMDR-1YR-LIC-008000	Up to 8000 points annual license
9000	CMDR-1YR-LIC-009000	Up to 9000 points annual license
10,000	CMDR-1YR-LIC-010000	Up to 10,000 points annual license

SPECIFICATIONS—COMMANDER IOT APPLIANCE HARDWARE

Processor	Intel® Atom™ E3815, 1.46 GHz, 64-bit, 1 core, 512 KB L2 cache
Memory	2 GB DDR3L 1066 MHz, 32 GB eMMC
Storage	Built-in 32 GB eMMC
Environmental	Operating temperature –4 to 140° F (–20 to 60° C) at relative humidity 5 to 85% with 0.7 m/s airflow, non-condensing, shock and vibration resistant
Dimensions	4.9 x 4.9 x 2.0 inches (125 x 125 x 50 mm)
Form Factor	Fanless design, optimized for wall/panel mounting or (with the included CMDR-ADVT-DINMT adapter) DIN-rail mounting—see Accessories on page 4
Weight	3.3 pounds (1.5 kg)
Power Requirements	Power Over Ethernet Injector (CMDR-D3-PWR-POE) or 10–30 VDC (2 A @ 140° F or 60° C) power supply—see Accessories on page 4
I/O	Gigabit Ethernet (RJ-45), Wi-Fi
Status Indicators	Power and Storage
Operating System	Ubuntu Core 24
Security	Trusted Platform Module (TPM) 2.0 chip, Secure Boot, BIOS lockdown of unused I/O ports
KMC Limited Warranty	1 year (from Advantech Co., Ltd.'s manufacturing date code)

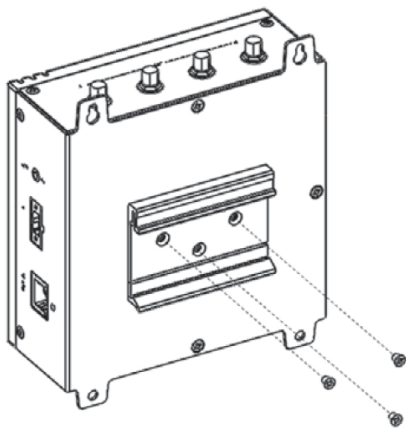


SPECIFICATIONS—SUPPORTED COMMUNICATION PROTOCOLS

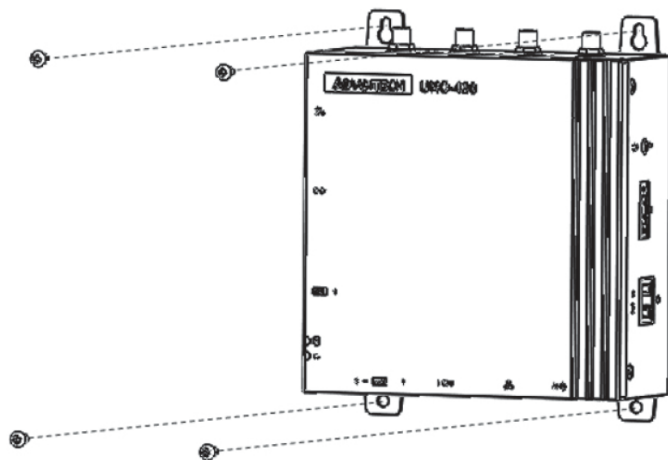
SNMP	Direct network connection to the Ethernet port
Modbus TCP	Direct network connection to the Ethernet port
BACnet MS/TP	With a KMC BAC-5051AE BACnet router connected to the Ethernet network
BACnet IP and Ethernet	Direct network connection to the Ethernet port*
KMDigital	With a KMC KMD-5551E translator connected to the Ethernet network*
	*NOTE: Three Tier 1 KMDigital controller models have optional BACnet Ethernet interfaces. Their points are discoverable in KMC Commander using BACnet Ethernet protocol without a KMD-5551E translator. (Points in any Tier 2 controllers connected to them via EIA-485, however, are not discoverable without a KMD-5551E.)

ACCESSORIES

Power supply	Replacement Power Over Ethernet Injector (CMDR-D3-PWR-POE)
Mounting on a DIN rail or on a wall or panel	A replacement (CMDR-ADVT-DINMT) adapter for DIN-rail mounting (included in base packages)
Mounting inside an enclosure	Steel control enclosure, 16 x 18 x 6 inches (HCO-1034) or equivalent—and use a CMDR-ADVT-DINMT adapter to mount the gateway inside
Remote mounting of antennas (outside of an enclosure or at a distance for better range/reception)	- Extension cables (pack of two), Wi-Fi, 3-foot (CMDR-ANT-EXT-3) - Extension cables (pack of two), Wi-Fi, 15-foot (CMDR-ANT-EXT-15)
Network communication accessories	- Dual-port BACnet router (BAC-5051AE)—use for connecting to an MS/TP network - KMDigital to BACnet translator (KMD-5551E)—use for connecting to a KMDigital network - Ethernet patch cable, 50 feet (HSO-9001) - Ethernet patch cable, 50 feet, plenum rated (HSO-9011) - Ethernet patch cable, 75 feet, plenum rated (HSO-9012)



With DIN Rail Adapter (Included in Base Packages)



Wall/Panel Mounting (Screws not Included)

FREQUENTLY ASKED QUESTIONS

Why Does the Base Package Need Wi-Fi?

During KMC Commander installation, Wi-Fi is used to discover and set up the hardware.

NOTE: Wi-Fi is used during installation and then disabled for security reasons. During operation, Ethernet is normally used for the Internet connection. See [KMC Commander Base Package on page 2](#).

What Is a Point (of Interest) License?

A **point** is a device data point that is alarmed, scheduled, trended, or used in control logic. Examples of data points include, but are not limited to, temperature, air volume, CO₂ level, door status (open/closed), pressure, tank level, and binary status (on/off). When one of these points is manually selected to be continuously tracked, it counts as a point of interest and is licensed as such.

A **point of interest** is any user-selected point that is configured to be tracked and/or commanded by KMC Commander. Not all points in a controller will be points of interest. Points of interest are continuously subscribed to in the KMC Commander software.

Each point of interest being pulled from a device uses 1 license point. For example, 60 controllers gathering 8 points of interest each would need a total of 480 license points. A 500 point license would cover this amount and provide room for small future additions to the project. Point licenses can be purchased in increasing increments and are available for purchase as projects expand.

See [Point Licenses on page 2](#).

How Does Licensing Work?

Licensing is an annual term and based on total number of system points identified as points of interest. Licensing also includes cloud storage as well as software and security updates and enhancements for the length of the term.

License renewal notifications will be forwarded in advance and prior to expiration of the existing license term.

For 14 days after a license's expiration date, KMC Commander will continue to function to allow time to remedy payment. After 14 days, KMC Commander will not be accessible, and will not receive updates and enhancements, store data in the cloud, or interact with the building automation system. If the license is renewed prior to 60 days after the initial license expiration date, KMC Commander will return to normal operation. If not renewed for more than 60 days, the license will be decommissioned, at which point a new license would need to be purchased and the project set up again from the beginning.

Also, any connection to a KMD-5551E KMDigital to BACnet translator will not work without an active license and a live Internet connection.

What is the Commander Cloud Service?

The Commander cloud service provides important data and security benefits to customers. Cloud services include:

- Securely storing data
- Processing data
- Relaying data to mobile and other devices
- Managing control devices
- Providing automatic software enhancements and security updates

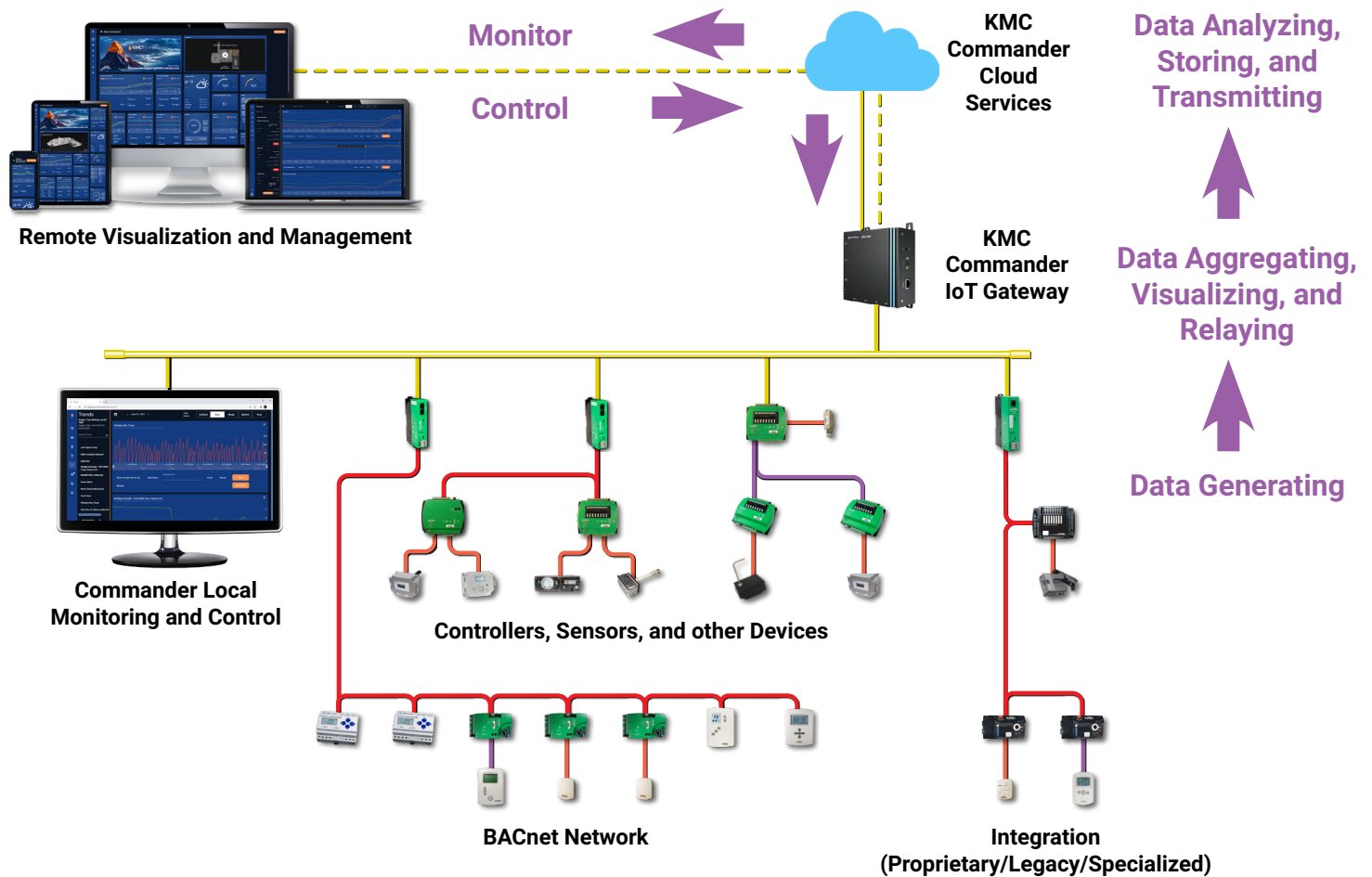
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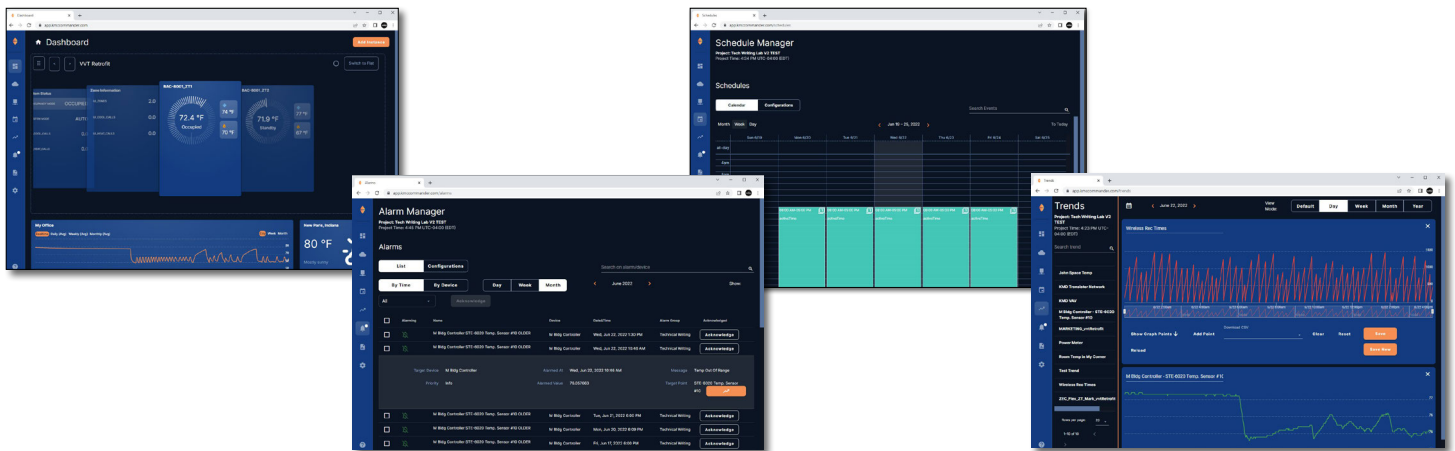
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SAMPLE INSTALLATION



SAMPLE SCREENS



SUPPORT

Additional KMC product information and resources are available at www.kmcccontrols.com. Log in to see all available files.

Information on KMC Commander installation and operation is available at help.kmcccommander.com.

